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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,432	03/20/2001	Curtis E. Scott	LD-10807/GEC 2 0153	9837

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EXAMINER	
GILMAN, ALEXANDER	
ART UNIT	**PAPER NUMBER**
2833	

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/812,432	SCOTT ET AL.	
	Examiner	Art Unit	
	Alexander Gilman	2833	

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-15 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-15 and 18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-15 and 19 are rejected under 35 U.S.C. 103(e) as being unpatentable over Prochaska et al in view of Nagayama , Wei et al (US 5,747,402) and Scott, Jr et al .

With regard to claims 1, 3-5, 14,15, Prochaska et al (US 4,427,785) disclose translucent ceramic body and a method of its manufacturing, the method comprising:

densifying a ceramic body to form substantially translucent ceramic body which includes aluminum, the densifying process including heating the ceramic body under isostatic pressure up to 2100 kg/sq.sm (col. 7, lines 10-14) at temperature 1600-1700 degrees C.(col. 7, lines 23-25).

Prochaska et al do not disclose

the ceramic body includes about 99.9% aluminum;

alumina containing 0.5 weight percent of magnesia;

contacting of the substantially translucent ceramic body with a molten inorganic flux, which includes an alkali metal borate capable of dissolving the ceramics.

Nagayama (US 5,742,123) teaches using isostatic pressure using starting material containing 99.9% aluminum (col. 27, lines 41-46).

Wei (US 5,747,402) discloses aluminum containing 0.5 weight percent of magnesia (col. 1, lines 19-24 and Abstract),

Scott, Jr et al (US 4,033,743) disclose contacting of the substantially translucent ceramic body with a molten inorganic flux (col. 3, lines 31-39) which includes an alkali metal borate (col. 4, lines 30-34) capable of dissolving the ceramics.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use starting material containing 99.9% aluminum and 0.5 weight percent of magnesia in the Prochaska densyfying process and polish the Prochaska et al translucent ceramic body with a molten inorganic flux, as taught by Scott, Jr et al, to further increase its optical transmission.

With regard to claims 6-13, 19, Prochaska et al when modified by Nagayama, Wei (US 5,747,402) , and Scott, Jr et al disclose (Scott, Jr. et al):

a molten flux bath with temperature less than 1000 degrees and oxidizing atmosphere (col. 4, lines 34-39) (claims 6-8);

coating the ceramic body and heating the ceramic body (col. 4, lines 11-19) (claim 9);

removing flux residue with an acid solution (col. 4, lines 24-26) (claim 10);

the alkali metal borate presented by $(Na_2O)_n(B_2O_3)_m$ (col. 4 lines 38-48) (claims 11 and 12);

the ceramic body is an arc tube (Abstract, lines 4-10) (claims 13 and 19).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prochaska et al in view of Nagayama – Wei et al (US 5,747,402) and Scott, Jr et al as applied to claim 12 above, and further in view of Wei et al (US 5,861,714).

Prochaska et al when modified by Nagayama – Wei et al (US 5,747,402) disclose all of the limitations except for the alumina containing magnesia, said magnesia at a concentration at 400-1500 ppm.

Wei (US 5,861,714) discloses aluminum containing magnesia at a concentration at 800 ppm (col.13, lines 8-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the Prochaska - Nagayama – Wei et al (US 5,747,402) -Scott, Jr et aluminum with the specified magnesia concentraion, as taught by Wei (US 5,861,714), to aid in process of sintering.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scott, Jr et al (US 4,033,743) in view of Prochaska et al and Nagayama – Wei et al.

Scott, Jr et al (US 4,033,743) disclose (Fig. 1) a discharge vessel (2) which defines a chamber and polished by immersing in a molten inorganic flux (col. 3, lines 31-38; col. 4, lines 10-14) ; electrodes sealed (11, 22) into the ends of the chamber, and a fill (inherently) sealed within the chamber.

Scott, Jr et al do not disclose the starting material consists of 99.9% aluminum and process of densifying aluminum by applying sufficient pressure and temperature.

Prochaska et al disclose densifying aluminum by applying sufficient pressure and temperature as applied to claim 1 above.

Nagayama and Wei et al (US 5,747,402) respectively disclose the starting material consisting of 99.9% aluminum and containing 0.5 weight percent of magnesia.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manufacture Scott, Jr et al vessel using the technology of Prochaska and the starting material as taught by Nagayama and Wei et al (US 5,747,402), as an appropriate sintering technology for further polishing of the vessel.

Response to Arguments

Applicant's arguments filed 08/25/2003 have been fully considered but they are not persuasive.

Applicants argue that the starting material of the invention contains 99.9% alumina while the reference of the rejection (Nagayama) teaches 99.99%alumina.

[redacted]

However claims 1, 18 claim not 99.9% but "material including about 99.9% alumina. According to general meaning for a word "about",(The Heritage Dictionary, 4th Ed) the above mentioned limitation is interpreted as the starting material includes approximately 99.9% alumina. The amount 99.99%, suggested by Nagayama, meets the claim limitation.

Also Applicants argue that the invention (claims 1, 18) teaches using MgO while the reference of the rejection (Wei , 402) teaches MgO in combination with terbia and yttria.

However, Wei teaches a variety of compositions for forming optically translucent alumina.

The Office Action recites the composition using the MgO being only dopant.

As for using MgO in combination with other dopants (for example, yttria), claims 1, 18 do not claim using magnesia being only dopant. Moreover, the specification suggests using MgO in combination with dopants (p. 7, lines 5-9).

Hence, the rejection deems to be proper.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Gilman whose telephone number is (703) 305-0847. The examiner can normally be reached on Monday-Friday, 10:30 a.m. - 8:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

10/31/2003

Alex Gilman

ALEXANDER GILMAN
PRIMARY EXAMINER